DOCKET FILE COPY ORIGINAL

VERNER · LIIPFERT
BERNHARD · MCPHERSON AND HAND
CHARTERED

901 - 15TH STREET, N.W.
WASHINGTON, D.C. 20005-2301
(202) 371-6000
FAX: (202) 371-6279

RECEIVED
OCT 13 1998
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

WRITER'S DIRECT DIAL
(202) 371-6206

October 13, 1998

BY HAND

Ms. Magalie Roman Salas
Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Comments of Philips Electronics North America Corporation in CS Docket No. 98-120

Dear Ms. Salas:

Enclosed for filing please find the original and nine (9) copies of the Comments of Philips Electronics North America Corporation in the above-referenced docket.

Please stamp and return to this office with the courier the enclosed extra copy of this filing designated for that purpose. Please direct any questions that you may have to the undersigned.

Respectfully submitted,

Lawrence R. Sidman

Lawrence R. Sidman

Enclosures

No. of Copies rec'd 0+9
List ABCDE

RECEIVED
OCT 13 1998
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Carriage of the Transmissions	)	
of Digital Television Broadcast Stations	)	CS Docket No. 98-120
	)	
Amendments to Part 76	)	
of the Commission's Rules	)	

COMMENTS OF
PHILIPS ELECTRONICS NORTH AMERICA CORPORATION

Thomas A. Patton
Vice President, Government Relations
PHILIPS ELECTRONICS NORTH
AMERICA CORPORATION
1300 Eye Street, N.W. Suite 1070 East
Washington, D.C. 20005
(202) 962-8550

Lawrence R. Sidman
Sara W. Morris
VERNER, LIIPFERT, BERNHARD,
MCPHERSON & HAND, CHARTERED
901 15th Street, N.W., Suite 700
Washington, D.C. 20005
(202)371-6206

Counsel for Philips Electronics North
America Corporation

October 13, 1998

TABLE OF CONTENTS

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Carriage of the Transmissions	)	
of Digital Television Broadcast Stations	)	CS Docket No. 98-120
	)	
Amendments to Part 76	)	
of the Commission's Rules	)	

COMMENTS OF
PHILIPS ELECTRONICS NORTH AMERICA CORPORATION

I. INTRODUCTION AND SUMMARY.

Philips Electronics North America Corporation ("Philips") submits these comments in the above-captioned Notice of Proposed Rulemaking ("*NPRM*"),[1/] concerning the Commission's proposed rules regarding cable television system carriage of broadcasters' digital television ("DTV") transmissions.

Philips is proud of its role as a leader in the development of terrestrial digital television technology, including digital high definition television ("HDTV"), and particularly the digital television transmission standard ("DTV standard") which was adopted by the Commission in December, 1996.[2/] After more than a decade of financial investment and enormous scientific effort, and thanks to the extraordinary public-private collaboration fostered by the Commission, the U.S. is about to initiate the introduction of a new medium in communications technology: terrestrially-delivered digital television. This new medium represents nothing less than a paradigm

---

1/ *Notice of Proposed Rulemaking* in CS Docket 98-120, 13 FCC Rcd 15092 (1998).

2/ *See Fourth Report and Order* in MM Docket 87-268, 11 FCC Rcd 17771 (1996).

shift in how consumers will experience and utilize television in their homes. Much more than the transition from black and white to color changed television in the 1950s and '60s, DTV holds the potential not only to enhance the way Americans receive their entertainment and educational and informational programming, but also to bring into American homes a virtually unlimited number of interactive services.

Philips applauds the Commission for its commitment to making digital television a reality, and its substantial efforts to ensure that the transition to DTV progresses as rapidly and as smoothly as possible. It is now imperative that the Commission adopt rules in this proceeding that conform to two fundamental principles: (1) consumers must have the ability to choose how they will make the transition to DTV; and (2) no gatekeeper can be allowed to deny consumers access to the full panoply of DTV services, either by restricting access to or degrading the quality or integrity of broadcasters' DTV signals and services, or by limiting what consumer electronics manufacturers can offer consumers in terms of DTV equipment functionality. Whether based upon a cable operator's must carry obligations or a set of minimum technical standards governing the retransmission of broadcasters' DTV signals, the Commission's rules should:

1. Require cable operators to retransmit broadcasters' DTV signals without degradation of any kind (*i.e.*, in their original formats); and

2. Require cable operators to carry and maintain the integrity of data contained in the entire 6 MHz broadcast channel for every DTV broadcast signal that it retransmits, including all PSIP data and USER data.

With respect to cable compatibility, Philips urges the Commission to foster a realistic set of expectations and to adopt rules which, at each stage of the transition, safeguard the ability of cable subscribers to access DTV signals and related data transmitted by broadcasters. To accomplish this, Philips recommends the Commission adopt a phased-in approach, initially requiring cable operators to provide, by whatever means suitable to the cable operator, an 8 VSB

output for direct connection to the consumer's DTV receiver. This obligation should continue until the Commission determines that an alternative solution to achieve cable-DTV receiver compatibility is universally available. Concurrently, and most importantly, the Commission should do everything in its power to encourage industry adoption of standards that will enable manufacturers to design cable-ready DTV receivers, by far the most consumer-friendly approach to cable compatibility with DTV because it eliminates entirely the consumer's need to purchase or rent a cable set-top box. The adoption of a baseline IEEE 1394 interface standard will not be a panacea and should only be viewed as an interim measure that would facilitate cable compatibility with DTV.

Finally, Philips is entirely confident that all of its DTV receivers will meet or exceed customers' high expectations for performance and reliability, particularly regarding their reception and display of off-air DTV signals. Philips will devote substantial resources to ensuring that consumers purchasing its DTV receivers are entirely satisfied with their receiver's performance. The Commission need not revisit its earlier decisions that consumers are best served when the competitive marketplace, not government, drives the design and performance levels of consumer electronics products such as DTV receivers.

II. AFTER MORE THAN A DECADE OF PREPARATION, PHILIPS IS READY TO PLAY A KEY ROLE IN A CONSUMER-FRIENDLY TRANSITION TO DIGITAL TELEVISION.

After fifteen years of research and private investment, and on the threshold of the third millennium, the United States is but weeks away from initiating its transition to a new era in entertainment and information technology: the era of digital television.

Philips is extremely proud to have been instrumental in the development of digital HDTV, beginning with its own research initiated in 1983, later as a member of the Advanced Television

Research Consortium, and finally as a founding member of the "Grand Alliance," which produced the DTV standard adopted by the Commission in December, 1996. In the past decade, Philips has expended over $100 million in private capital to create and commercialize digital HDTV.

What this fifteen-year process has produced is the world's finest, most capable system of *terrestrially-delivered (i.e.,* over-the-air) digital television in the world. Accordingly, and appropriately, the initial phase of the transition has necessarily focused on perfecting the provision of *over-the-air* digital television. Philips has designed its early generation DTV receivers to access digital television programming either over-the-air or via cable,[3/] and is confident that consumers purchasing these receivers will be completely satisfied with their performance. In fact, Philips will devote substantial resources to ensuring that its customers who purchase HDTV receivers are nothing less than fully satisfied with their investments, as is required in a highly competitive environment.

A. Philips Will Offer DTV Products That Allow Consumers to Exploit Fully the Capabilities of DTV.

Philips is busily engaged in carrying out its business plans for the roll out of the highest quality, state-of-the-art digital receivers, as well as state-of-the-art digital broadcast production equipment. Later this year, Philips will unveil its first 64-inch rear-projection HDTV receiver, featuring the maximum high definition interlaced display of 1080 x 1920 lines of resolution, 16x9 aspect ratio and Dolby Digital sound. The centerpiece of its HDTV consumer product line (which will carry a suggested retail price of $9990), this receiver uses the latest technology to create for consumers an incomparable home cinema experience, combining extraordinarily sharp, clear

---

[3/] As such, and as discussed at length *infra*, Philips' early generation DTV receivers will be capable of receiving DTV signals via cable television systems so long as the cable operator provides an ATSC-compliant signal (*i.e.*, 8 VSB) output to the receiver. Philips' receivers will be capable of receiving all current analog cable programming services.

pictures with crystal clear digital sound.

Philips also has developed and will market a 42-inch, 16x9 aspect ratio, flat panel DTV receiver with a standard definition, progressive-scan display of 480 x 853 lines of resolution, utilizing the most advanced plasma technology available. This extraordinary receiver, first demonstrated at the 1998 NAB Convention, features a wall-mounted monitor that is only four inches thick with a full 180-degree viewing angle. As the DTV market further develops, Philips contemplates offering an array of DTV receivers, including projection and direct view models, with varying high and standard definition displays.

These products will put in the hands of consumers an arsenal of functionality that can be used to exploit DTV to its fullest potential. Philips' DTV receivers will be capable of receiving any digital television signal format transmitted by a broadcaster, including HDTV signals, directly over-the-air, or can be connected to any cable system to receive analog cable services. In addition, Philips' DTV receivers will be immediately capable of receiving DTV services via cable, so long as the cable operator provides, in some manner, an ATSC-compliant output (*i.e.*, 8 VSB) to the receiver.[4/]

Additionally, Philips will offer a line of digital-to-analog converter boxes -- also capable of decoding all ATSC DTV formats, NTSC signals and, in some models, satellite-delivered services -- to those consumers who do not wish to invest right away in an HDTV or SDTV receiver, or who wish to upgrade the functionality of additional NTSC receivers to receive DTV

4/ In addition to the new consumer DTV receivers, Philips already manufactures and markets a full range of digital broadcast equipment. We have manufactured and marketed 480-p, 720-p and 1080-i HDTV digital cameras and will manufacture products in any format that meets the needs of our customers. Philips also offers a complete range of digital equipment including film-to-HDTV video scanners, production and routing switchers, video servers for storage and retrieval of digital content, as well as a complete line of ATSC-compliant DTV encoders for broadcasters' digital broadcast facilities.

programming.[5/] These converter boxes, which will range in price from $600 to $800, will offer consumers a less expensive alternative to purchasing a new HDTV or SDTV receiver, while still ensuring that the consumer will be able to view *all* the DTV (including HDTV) programming that is made available by broadcasters.

The range and robustness of Philips' DTV product line reflect Philips' unswerving commitment to ensuring that the DTV equipment it offers stands in no way as a barrier, but rather as a facilitator, to consumers' enjoyment of *all* of the benefits and services that will be available as DTV matures to its fullest potential.

III. THE NEEDS OF CONSUMERS MUST DRIVE THE TRANSITION TO DTV.

The overall success of the DTV transition (*i.e.*, the optimally smooth development of a mass market for DTV products and services and the swift return of broadcasters' analog spectrum) can only be assured if the interests of *consumers* guide the transition. It is imperative that, to meet these goals, the Commission adopt rules in this proceeding that conform to two fundamental principles: first, consumers, particularly the vast majority of consumers who subscribe to cable, must have the ability to choose how they will make the transition to DTV; and

---

[5/] Philips notes that its commitment to the success of digital television extends beyond the design and manufacture of DTV receivers and digital broadcast equipment. Philips has integrated several business units, including Digital TV, Web and Internet TV, Digital Entertainment, Creative Display Solutions, Disc Systems, Digital Cameras, Flat TV, Projection TV and Internet Services, under its Digital Video Group umbrella in order to be at the forefront of the consumer migration to emerging digital technologies. The Digital Video Group coordinates its approach to compelling market issues such as convergence and the networking of digital appliances in the home through a research and development type campus that links Philips' diverse electronics companies, consortia, universities and professional laboratories within Silicon Valley and throughout the world. Products developed by the Digital Video Group include the DVX8000 (Multimedia Home Theater), a product combining an incredibly realistic picture, crystal clear audio and a fully functional PC. Thus, Philips' digital efforts extend well beyond the creation and commercialization of digital HDTV, while recognizing HDTV as the driver for the digital transition.

second, no gatekeeper can be allowed to deny consumers access to the full panoply of DTV services, either by restricting access to or degrading the quality or integrity of broadcasters' DTV signals and services, or by limiting what consumer electronics manufacturers can offer consumers in terms of DTV equipment functionality.

To ensure that these consumer interests are protected throughout the transition to DTV, the Commission should adopt rules which, *whether based on a cable operator's must-carry obligations, or on a set of minimal technical standards governing the retransmission of broadcasters' DTV signals*:

1. Require cable operators to retransmit broadcasters' DTV signals without degradation of any kind, *i.e.*, in their original formats; and

2. Require cable operators to carry and maintain the integrity of data contained in the entire 6 MHz broadcast channel for every DTV broadcast signal that they retransmit, including all PSIP data and USER data.

With respect to cable compatibility, Philips urges the Commission to adopt rules which, at each stage of the transition, protect the ability of cable subscribers to receive the full range of DTV signals and services transmitted by broadcasters. To accomplish this broad objective, Philips recommends the Commission:

1. Require cable operators to provide an 8 VSB output for direct connection to the consumer's DTV receiver until such time as the Commission finds that an alternative approach to cable-DTV receiver compatibility is ubiquitously available.

2. Encourage swift adoption of acceptable and transparent industry standards for cable-ready DTV receivers, through an open and formal standards-setting process.

A. Cable Consumers Must Be Able to Follow a DTV Transition Path That Suits Their Own Needs and Budget, Not Their Cable Company's. The Commission Should Adopt Rules Prohibiting Cable Operators From Limiting Consumer Access to DTV Services and Products.

As with the introduction of nearly all new consumer electronics devices, the creation of a mass market for DTV products initially will be driven by so-called "early adopters" -- consumers who are willing to pay premium prices for the highest quality, state-of-the-art consumer electronics products as soon as they reach the market. When it comes to digital television, that product will be true 1080-i HDTV receivers. These early adopters will be, in a very real sense, "pioneers" in the DTV transition. As such, their complete satisfaction with the DTV products they purchase will play a determinative role in the speed with which other consumers follow suit, and with which the mass market for DTV will develop.

Undeniably, the market will experience its most significant and sustained growth when the average consumer can make the leap into DTV at a price and pace that suits his or her needs and budget. Many consumers might decide, for instance, to wait a few years before purchasing a top-of-the-line 1080-i HDTV receiver, based on the realistic expectation that prices will drop dramatically, consistent with the historic price curve for consumer electronics products. Alternatively, some wishing to view broadcasters' DTV programming, but unable to immediately afford a new HDTV receiver, may choose to purchase a set-top converter for their existing NTSC receiver. Still others may wish to replace each of their NTSC receivers, over a period of time, with new DTV receivers of various resolutions and sizes. It is absolutely critical that nothing denies, or has the effect of denying, consumers that choice.

In order for the availability of such a broad array of HDTV (and SDTV) products to have any real meaning for consumers, however, two things must occur: first, a sufficient amount of

programming must be available that exploits the fullest capabilities of the DTV receivers, including those with full 1080-i HDTV displays; and second, consumers must be able to access the signals carrying that programming in their pristine, unaltered and undegraded quality.

Philips applauds broadcasters (including NBC and CBS) and cable networks (including HBO and Discovery) who have publicly announced their commitment to providing their audiences programming transmitted in the highest quality available -- full 1080-i HDTV.

Likewise, Philips applauds those cable operators (including Time Warner) who have committed to passing through and processing these and all other DTV signals in their intended quality and original format, thus ensuring that customers receiving cable over these systems will be able to reap the full functionality of any HDTV receiver they choose to purchase and thus fully participate in the DTV revolution.

Unfortunately, however, other cable operators, including Tele-Communications, Inc. ("TCI"), the nation's largest cable multiple system operator ("MSO"), have not been forthcoming in their commitment to provide their consumers with all available HDTV services. Given the market power exercised by TCI alone,[6] and the monopoly control it has over its customers as a provider of video programming services, were TCI to refuse to pass through and process 1080-i signals to its nearly 16 million customers, it could inject an enormous degree of uncertainty in the minds of consumers, and undercut and delay the transition to digital television. It is critical that the Commission act quickly to avoid such confusion by mandating that cable operators not abuse their gatekeeper power to limit consumers' DTV choices, either by degrading broadcasters' DTV

---

[6] TCI controls access to more than 15.7 million homes, nearly one quarter of all homes subscribing to basic cable. *Source:* National Cable Television Association, citing data from Paul Kagan Associates' *Cable TV Investor* (February 24, 1998). *See also* http://www.ncta.com/ncta.

signals, or by disabling in any way the functionality or features built into DTV receivers by consumer electronics manufacturers.

To ensure that consumers have access to and can enjoy the full panoply of DTV services, Philips urges the Commission to adopt rules which, *whether based on a cable operator's must-carry obligations, or on a set of minimal technical standards governing the retransmission of broadcasters' DTV signals*:

1. Require cable operators to retransmit broadcasters' DTV signals without degradation of any kind, *i.e.*, in their original formats; and

2. Require cable operators to carry and maintain the integrity of data contained in the entire 6 MHz broadcast channel for every DTV broadcast signal that they retransmit, including all PSIP data and USER data.

Such rules are critical to ensuring that cable operators cannot abuse their gatekeeper power to limit in any way the extent to which consumers can access and/or enjoy all DTV services.

B. The Commission Should Foster a Realistic Set of Expectations Regarding Cable Compatibility and Adopt Rules Which, at Each Stage of the Transition, Optimize Both the Capabilities Available to Consumers and the Flexibility Consumers Have to Make Choices That Suit Their Needs.

Equally important to ensuring that consumers' interests guide the Commission's actions in this proceeding and throughout the balance of the transition is the need to adopt policies and rules that do not rest on a set of expectations that exceeds what is realistic. What we are engaged in, after all, is nothing less than a revolutionary change in the way all Americans will receive what is by far the most relied upon source of news, information and entertainment. At the same time, the roll out of digital television has required and continues to require close coordination among multiple industries representing thousands of individual companies, each with its own particular business interests and capabilities. Whereas NTSC's initiation was accomplished via a single,

over-the-air delivery mode, digital television must be compatible with multiple delivery systems -- including cable and satellite delivery systems -- a requirement that increases the complexity of the transition exponentially. While the Commission has worked tirelessly to ensure that the transition proceeds as smoothly as possible, it is simply unrealistic to expect some obstacles will *not* arise in the early stages of the transition, particularly those involving interoperability. These obstacles, however, do not foretell the failure of DTV. What is important is that they be identified as quickly as possible, and resolved in a manner that optimizes consumer choice and flexibility throughout the transition.

To the extent certain problems have arisen, particularly with respect to interoperability of DTV receivers with cable systems, Philips urges the Commission to adopt a graduated approach to the transition, focusing on what can be accomplished *realistically* and reasonably, in the short- and long-term, as always with a view toward giving consumers as much as possible at each step along the way.

Philips urges the Commission to consider the following phased approach to ensuring cable compatibility with DTV, with the goal, at each phase, of optimizing consumer choice and flexibility, and assuring that consumers are able to receive a quality DTV signal.

1. The Commission Should Require Cable Operators to Provide an 8 VSB Output Directly for Input to DTV Receivers Until Alternative Approaches Are Universally Available to Consumers.

Upon the initiation of the transition and until such time as an alternative approach to cable compatibility is universally available, the FCC should require cable operators to provide, in some manner, an 8 VSB output of DTV signals directly to the receiver. In the earlier phases of the DTV transition, such an output is the only way to ensure that cable consumers are able to receive a quality DTV signal and thus have full use and enjoyment of the equipment they purchase. The

means by which such an output would be accomplished can and should be left to the discretion of the individual cable operator.[7/] Philips is encouraged by recent discussions in the OpenCable process which indicate that much of the cable industry apparently has agreed to provide such an output upon the initiation of digital broadcasts this fall. However, the Commission must ensure that this commitment is pervasive and enforceable by embodying it in a rule. Moreover, a cable operator's obligation to make available an 8 VSB output must continue until there is ubiquitous cable consumer access to an alternative means of accessing DTV signals.

2. The Commission Should View the IEEE 1394 Interface as, at Best, an Interim Measure to Facilitate Cable Compatibility.

Another, albeit imperfect, approach to cable compatibility is the adoption of a baseline interface standard for interconnection of digital devices, the IEEE 1394, or "firewire," standard. As the Commission is aware, the consumer electronics and cable industries have been aggressively and cooperatively engaged in an effort to complete work on a baseline 1394 standard. Such a standard is a means to enable cable set-top boxes to connect not only with DTV receivers, but with other digital devices, such as VCRs and DVD players, products also manufactured by Philips. Philips is committed to completing work on the baseline 1394 standard as quickly as possible and to making 1394-compatible DTV receivers available to the public within 18 to 24 months thereafter, consistent with the long-established production cycles in the television receiver industry.

The baseline 1394 interface, however, is at best a piecemeal solution to -- and by no means a panacea for -- optimal cable compatibility. Most importantly, until critical copy

---

[7/] For instance, as proposed in the *NPRM*, a cable operator might choose to perform a pure pass-through, with no processing, of an 8 VSB signal. *NPRM* at ¶ 25. Alternatively, a cable operator could choose to perform a series of modulations/remodulations from VSB to QAM and back to VSB.

protection issues are resolved, the 1394 interface would only permit consumers to access DTV signals sent "in the clear" (*e.g.*, over-the-air broadcast signals); encrypted or "scrambled" programming carried on cable networks such as HBO or pay-per-view channels would not be accessible without a copy protection standard. At this time, there is no consensus on a copy protection standard. Nor does the 1394 firewire resolve the problem that would be faced by the first DTV receivers coming in to the market, the legacy receivers, which will not be "retrofittable." Finally, the 1394 interface approach assumes the need for a cable set-top box. That is by no means the most consumer-friendly approach to receiving DTV over cable. Taken together, these factors render the 1394 firewire a partial and, most likely, interim solution to the cable compatibility issue which could well be eclipsed quickly by a superior approach.

3. The Commission Should Do Everything Possible to Promote Industry Adoption of Technical Standards for Cable-Ready DTV Receivers.

Beginning immediately, and in the best long-term interests of consumers and a smooth but rapid transition, the Commission should do everything possible to encourage the adoption of industry standards that will enable manufacturers to design truly "cable-ready" DTV receivers.[8] The promise of true cable-ready DTV receivers, which would allow cable systems to connect directly to DTV receivers, represents by far the most elegant and cost-effective means for cable consumers to receive DTV (and digital cable) services, since it provides consumers the option of not using -- and paying for -- a digital set-top box. Moreover, it enables manufacturers, such as Philips, to include an unlimited array of features without risk of their being disabled by a set-top device. As the Commission is aware, the consumer electronics industry, as part of the Cable

---

[8] How "cable-ready" is defined with respect to digital receivers is crucial. Philips supports CEMA's proposed criteria for cable-ready DTV standards (*See* Letter to Chairman Kennard from Gary Shapiro dated September 10, 1998).

Consumer Electronics Advisory Group (C3AG) process, has already proposed to the National Cable Television Association ("NCTA") a standard for cable-ready DTV receivers,[9] a proposal to which NCTA, curiously, has not responded. We urge the Commission to press for timely adoption of acceptable standards for cable-ready DTV receivers through an appropriate standard-setting body, such as CEMA, with the full participation of all affected industries.

The approach outlined above accomplishes a number of objectives critical to the success of the DTV transition. First, it ensures that at no point in the transition are cable consumers left without a viable means of accessing a quality DTV signal. Second, it allows consumer electronics manufacturers, cable operators and other parties to explore and resolve cable compatibility issues in a formal, open process which ultimately yields solutions that protect the integrity and functionality of consumers' DTV investments.

IV. CONCERNS ABOUT OVER-THE-AIR RECEPTION OF DTV SIGNALS ARE UNFOUNDED. A COMPETITIVE MARKETPLACE IS CONSUMERS' BEST ALLY TO ENSURE EASY AND UNIFORM ACCESS TO OVER-THE-AIR DTV SIGNALS.

In recent months, some have raised questions about the ability of consumers to access DTV signals over-the-air, arguing, in part, that consumer electronics manufacturers have not acted to ensure that commercially available DTV receivers will be uniformly capable of receiving over-the-air DTV signals within FCC-proscribed service areas, and urging the adoption of minimum performance standards for DTV receivers.[10] In fact, these concerns -- which are based on statistically misleading findings from unreliable field tests using only a very limited number of

---

[9] Id.

[10] *See* Testimony of Gregory M. Schmidt, on behalf of the National Association of Broadcasters, before the Senate Committee on Commerce, Science and Transportation, July 8, 1998 ("Schmidt Testimony").

relatively immature receiver implementations -- are unfounded. Philips is confident that its DTV receivers will be uniformly capable of receiving and displaying off-air DTV signals, with little to no difficulty or confusion being imposed upon the consumer, and will devote substantial resources to ensuring that consumers purchasing its DTV receivers are entirely satisfied with their receiver's performance.

A. DTV Field Test Data Is Insufficient to Merit Broadcasters' Negative Predictions Concerning Over-The-Air Reception of DTV Signals.

In recent months, broadcasters have conducted a limited number of field tests designed to evaluate DTV receiver performance in an over-the-air configuration.[11/] Data collected from these field tests purport to suggest that DTV receivers will be plagued by reception difficulties, in particular that improper implementation of adaptive equalizers will result in excessive levels of multipath interference.[12/] Philips believes that these field tests, though conducted with the best of intentions, fail to provide either a complete or accurate view of how DTV receivers will actually function once the transition commences and progresses. Nonetheless, based upon the extremely limited and largely misleading data gathered by these tests, some broadcasters have called upon

---

11/ *See* Schmidt Testimony at Attachment 9 (Memorandum from Lynn Claudy to NAB TV Board concerning DTV field tests).

12/ An adaptive equalizer is used in a receiver to remove certain channel impairments and hence improve the overall receiver performance. In the analog TV world, a ghost canceler is also an adaptive equalizer optimized for analog TV reception. Both digital and analog adaptive equalizers remove channel imperfections, specifically multipath interference. In the analog TV world, multipath results in a visible "ghost" on the screen. In the digital TV world, multipath does not appear in any visible way on the screen until it exceeds a certain threshold at which point, like other digital TV degradations, it simply causes such a high Bit Error Rate (BER) that no picture (or audio, or data) reception is possible -- the so-called "cliff effect." Because there is literally an infinite set of multipath conditions, it is impossible in a laboratory, and very difficult in a brief period of time outside the laboratory, to test and therefore characterize accurately, the effects of all possibilities on the performance of a receiver.

the Commission to revisit its earlier decisions[13/] not to adopt minimum performance standards for DTV receivers.[14/]

In fact, any reliance on these tests disregards multiple factors which necessarily skew the results toward an inaccurate finding that DTV receivers will not be capable of uniform reception of DTV signals. Such factors include, among others, inadequate operating power levels of the DTV transmitter.[15/] In addition, the narrow scope of these tests (*i.e.*, the limited number of geographic locations tested, the relatively minute period of time over which these tests where conducted) does not provide a reliable basis for the concerns raised by the broadcasters and would be considered statistically insignificant aberrations in receiver performance over a longer period of time.

Finally, and perhaps most importantly, it must be recognized that the receiver implementations employed for these tests are extremely immature and do not reflect the refinements and improvements that will be implemented in commercially available DTV receivers. While Philips acknowledges that there is room for improvement and innovation in receiver implementation, the tests conducted by broadcasters to date have yielded information three orders of magnitude short of what is needed to make a reliable and scientifically accurate assessment of over-the-air DTV reception.

13/ *See Memorandum Opinion and Order on Reconsideration of the Sixth Report and Order* in MM Docket 87-268, 13 FCC Rcd 7418, 7486-7487 (1998) ("We continue to believe that competitive market forces will ensure that DTV receivers perform adequately. We note that receiver performance involves trade-offs among many different factors. We continue to believe that the television manufacturers are in the best position to determine how these trade-offs should best be made to meet consumer demand.")

14/ *See* Schmidt Testimony *supra.*

15/ For example, the Raleigh, North Carolina field test used power levels (106 KW) well below what will be used for actual DTV transmissions.

While Philips encourages broadcasters to continue their work in this area, albeit with more attention to ensuring a testing environment that optimally reflects the *real world,* it cautions the Commission not jump to the erroneous conclusion that consumers purchasing DTV receivers early in the transition will receive over-the-air DTV signals on a "hit-or-miss" basis. There is simply no accurate basis for such a conclusion.

B. Philips Is Committed to Ensuring Its Customers' Complete Satisfaction With Their Investments in DTV.

When Philips' first HDTV receivers reach retailers later this year, they will be backed by an extraordinary commitment on the part of Philips which is designed to optimize consumer reception of over-the-air DTV signals and to ensure each customers' complete satisfaction with his or her purchase. This commitment, which will include retailer and consumer education, as well as specialized antenna selection and installation, recognizes that consumers, particularly in the earlier phases of the transition, are being asked to make a leap of faith that their investment in HDTV will function in a manner that befits its pricetag. Such an approach simply makes good business sense for Philips and its retailers.

One of the most important elements of Philips' commitment to consumer satisfaction will be to provide consumer electronics retailers with the technical and product information that they will need to answer consumers' questions about DTV and to ensure proper installation and use of DTV equipment. This type of educational program, which will be bolstered by similar initiatives undertaken by CEMA,[16] will help to facilitate the smoothest possible introduction to DTV for consumers, especially in the earlier phases of the transition.

But Philips' commitment to customer satisfaction will not stop at the retail counter. It

---

[16] For information on CEMA's consumer electronics retailer education initiatives, see "http://www.cemacity.org/gazette/files2".

extends to ensure that the customer is capable of receiving DTV signals, regardless of their location within a market served by DTV broadcast transmissions. While many consumers will be able to use the same antenna they currently use for NTSC television reception, it may be necessary, depending on location, for some to purchase a new antenna, placed either indoors or on a rooftop,[17] in order to optimize the receiver's ability to receive DTV signals over-the-air. To help ensure, to the maximum extent possible, that each consumer is outfitted with an antenna appropriate to their location, over 30,000 retailers across the United States will have access to a comprehensive, scientifically formulated antenna mapping guide. This guide, which was developed by CEMA and United States Satellite Broadcasting, will enable retailers to match consumers, based on their location, to the antenna best suited to their location. The mapping project, which divides every television viewing market according to 5 color-coded regions, will go far toward ensuring that consumers, to the maximum extent possible, are able to receive a quality DTV signal over-the-air, thus greatly reducing the likelihood that a consumer will experience anything less than consistently excellent signal reception and picture quality.[18]

C. A Competitive Marketplace Is the Consumer's Best Insurance That DTV Receivers Will Perform. The Commission Should Forbear From Regulating Either A/B Switches or Minimum Performance Standards for DTV Receivers.

The Commission seeks comment on whether any issues raised in this proceeding suggest the need for an industry receiver standard.[19] Consumer electronics manufacturers have consistently and strenuously warned that adoption of such standards is both unnecessary and not

---

[17] As with analog television, outdoor antennas will generally be more effective than indoor antennas.

[18] In the early phase of the transition, consumers purchasing a Philips DTV receiver will also receive an antenna at no additional charge.

[19] *See NPRM* at ¶ 31.

in the best interests of consumers.[20] The same holds true in the instant case.

It is unthinkable from the perspective of its own survival in the marketplace that Philips, or any other consumer electronics manufacturer, would knowingly offer consumers a DTV receiver that does not live up to consumers' high expectations for high-quality over-the-air reception. Even more unthinkable is the notion that Philips, after such exhaustive efforts and enormous investment in the development and roll out of a revolutionary new medium like digital television, would settle for anything less than optimum, reliable receiver performance. In the intensely competitive consumer electronics marketplace, to disappoint one's customers -- particularly those willing to spend thousands of dollars for high-end home theater equipment such as HDTVs -- would be foolish. There should be no doubt as to manufacturers' commitment to produce top-quality DTV receivers, nor as to the marketplace's power to drive that commitment.

Similarly, the Commission should forbear from mandating the inclusion input selector, or "A/B," switches in DTV receivers. These switches, which allow the viewer to toggle between off-air delivery of broadcast signals and other means of delivery (i.e., cable, satellite) will be a standard feature in all of Philips' DTV receivers, usually located on the receiver's remote control unit, based on our assessment that such a feature will respond to consumer demands for an easy-to-operate method of accessing HDTV signals directly off-air. In the future, as the DTV transition evolves and as alternative video delivery systems become fully integrated in the carriage of DTV signals, manufacturers will implement upgrades or improvements to A/B switch technology as needed.

---

[20] *See* Reply Comments of the Electronic Industries Association and the EIA Advanced Television Committee in the *Sixth Further Notice of Proposed Rulemaking* in MM Docket 87-268 (January 26, 1996).

V. CONCLUSION.

The Commission's actions in this proceeding will determine whether the interests of consumers or cable operators will drive the transition to DTV. To ensure that it is consumers' interests that govern the transition, the Commission should adopt rules which ensure that: (1) cable consumers can access and enjoy the full benefits of DTV; and (2) no gatekeeper is allowed to deny its customers such access, either by refusing to carry broadcasters' DTV signals in their original format and in their entirety, or by disabling any of the functionality consumer electronics manufacturers will build into their DTV products. Accordingly, the Commission should adopt rules which, whether based upon a cable operator's must carry obligations or a set of minimum technical standards governing the retransmission of broadcasters' DTV signals: (1) require cable operators to retransmit broadcasters' DTV signals without degradation of any kind (*i.e.*, in no less than its original format); and (2) require cable operators to carry and maintain the integrity of data contained in the entire 6 MHz broadcast channel for every DTV broadcast signal that it retransmits, including all PSIP data and USER data.

Philips urges the Commission to adopt a phased approach to ensuring cable compatibility with DTV. Initially (*i.e.*, upon the commencement of DTV broadcasts this fall), cable operators must provide an ATSC-compliant (8 VSB) output to the DTV receiver, and continue to do so until such time as an alternative method to access DTV signals via cable is ubiquitously available. Simultaneously, the Commission should be pushing for the adoption of industry standards, through an open and transparent standards-setting process, that will enable manufacturers to design and build cable-ready DTV receivers. Such an approach is critical to ensuring that consumers have a viable means of accessing a quality DTV signal at every stage of the transition, and will allow consumer electronics manufacturers, cable operators and other parties to explore

and resolve cable compatibility issues in a formal, open process which ultimately yields solutions that protect consumers' DTV investments.

Philips will implement improvements, introduce new features and address any difficulties consumers may confront in response to the same market pressures that have honed the existing and intensely competitive consumer electronics market to date and which obviate the need for government mandated standards for DTV receivers.

Respectfully submitted,

PHILIPS ELECTRONICS NORTH AMERICA CORPORATION

By: Lawrence R. Sidman

Thomas A. Patton
Vice President, Government Relations
PHILIPS ELECTRONICS NORTH AMERICA CORPORATION
1300 Eye Street, N.W. Suite 1070 East
Washington, D.C. 20005
(202) 962-8550

Lawrence R. Sidman
Sara W. Morris
VERNER, LIIPFERT, BERNHARD, MCPHERSON & HAND, CHARTERED
901 15th Street, N.W., Suite 700
Washington, D.C. 20005
(202) 371-6206

Counsel for Philips Electronics North America Corporation

October 13, 1998